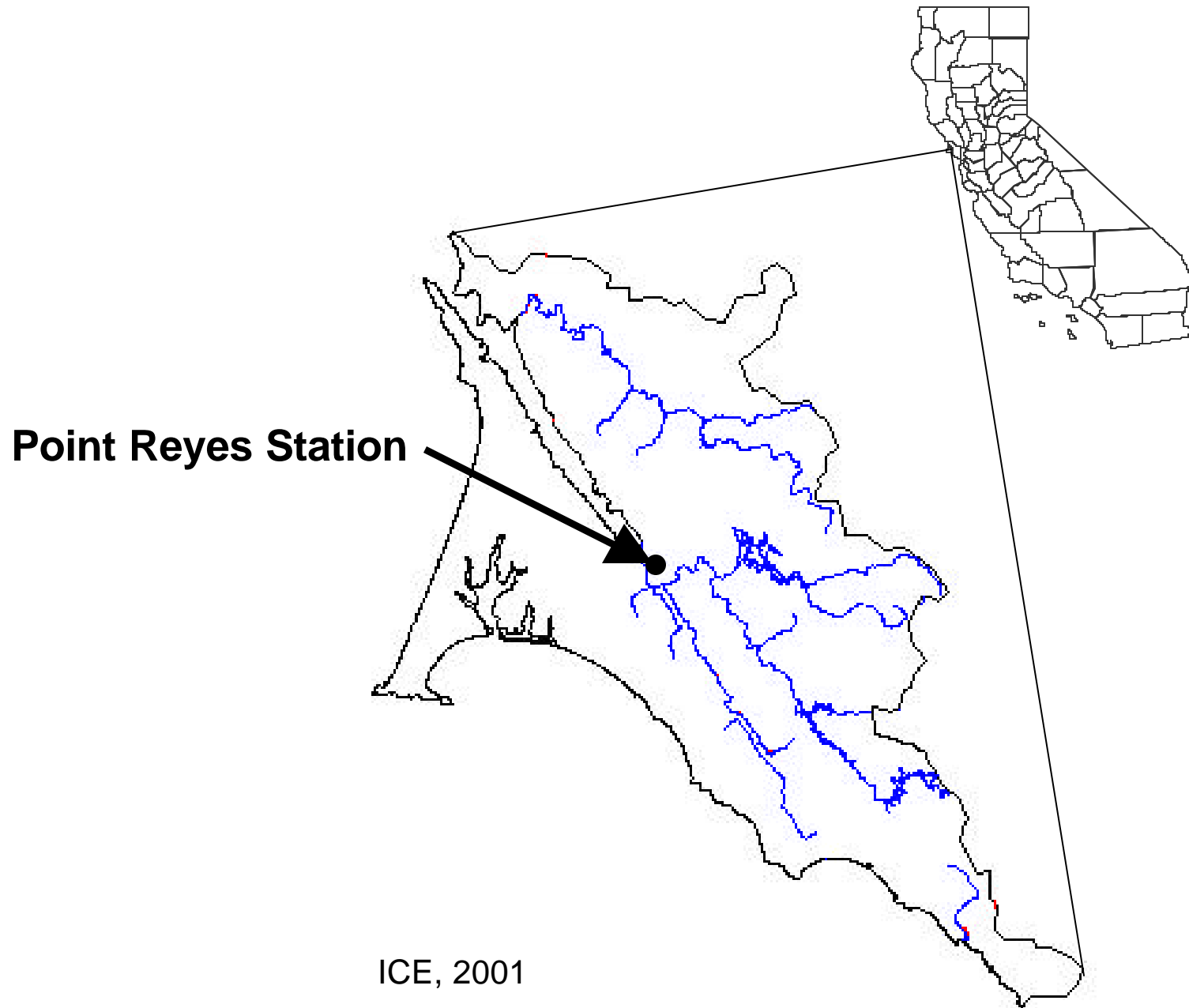


Making Water Quality Management Decisions on Dairies in the Tomales Bay Watershed

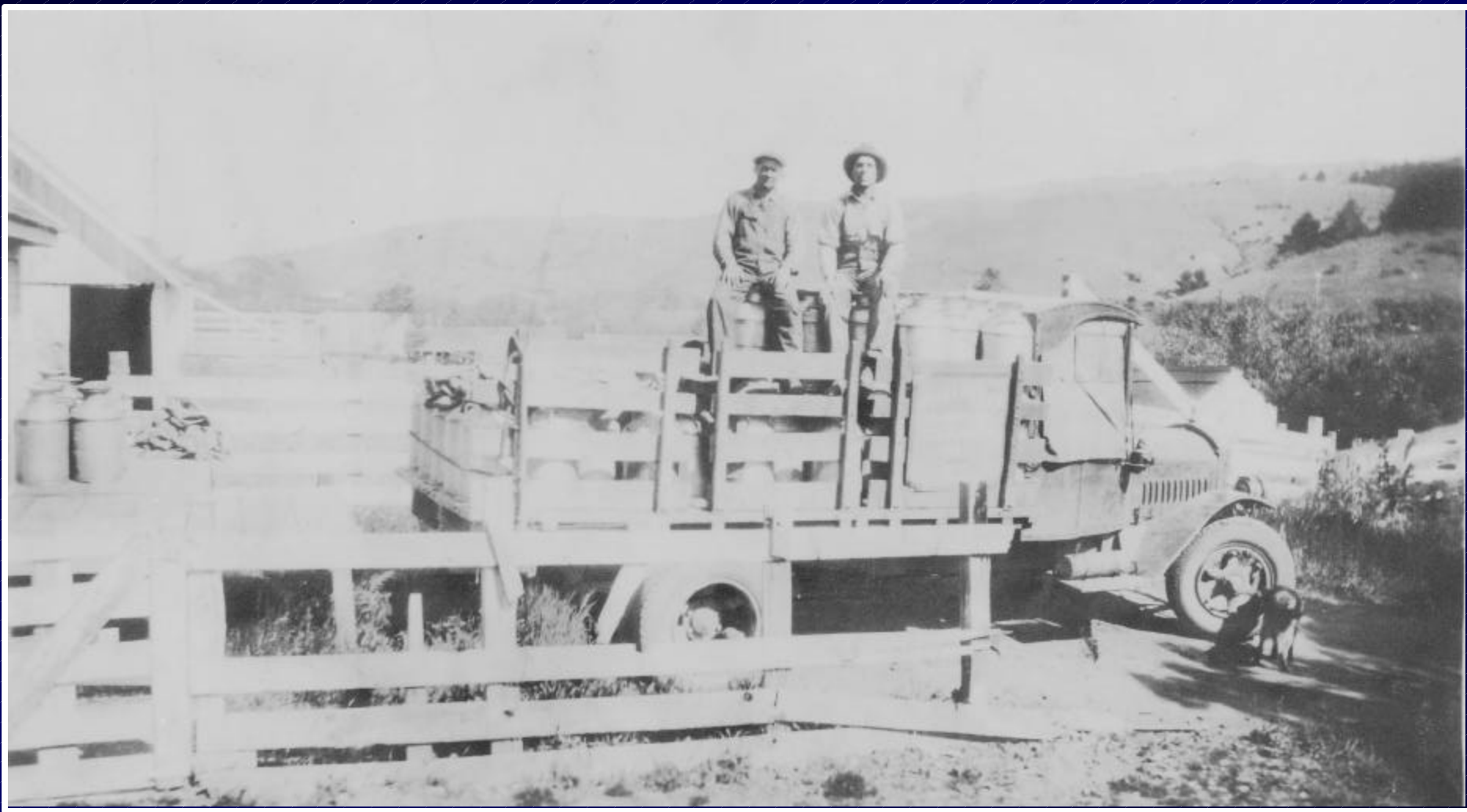
David J. Lewis
University of California Cooperative Extension
Watershed Management Advisor

2003 California NPS Conference





















HOG
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OYSTER
CO.



Water Quality Events in the Watershed

1977	Sewer installed in town of Tomales
1978	Manure management systems installed on dairies
1993	California Shellfish Protection Act
1994-2001	Shellfish Protection Technical Advisory Committee forms and conducts study
1996	Wastewater spill from treatment plant
1998	Norwalk like virus outbreak
1999	Tomales Bay Agricultural Group (TBAG) forms
2000-2003	Pathogen TMDL Development

TBAG Formation

- Aim: Provide direction and support in environmental management for animal agriculture producers
- 15 contributing members (\$500 each)
- Activities:
 - Participating on Shellfish Protection Committee and Watershed Council
 - Cooperating with UC Tomales Bay Water Quality Project

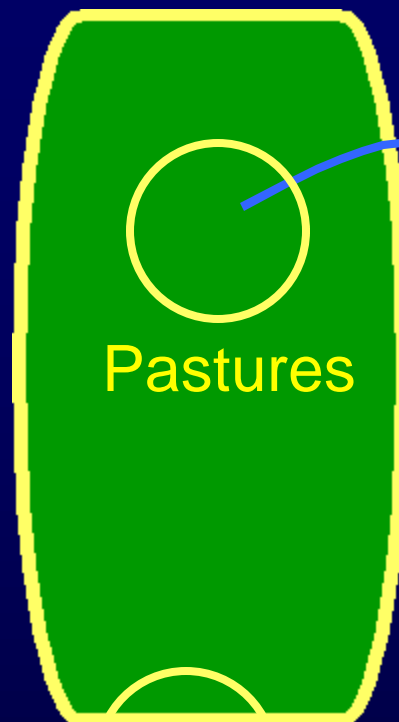
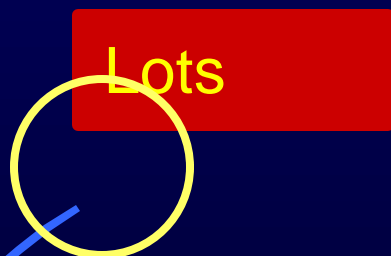
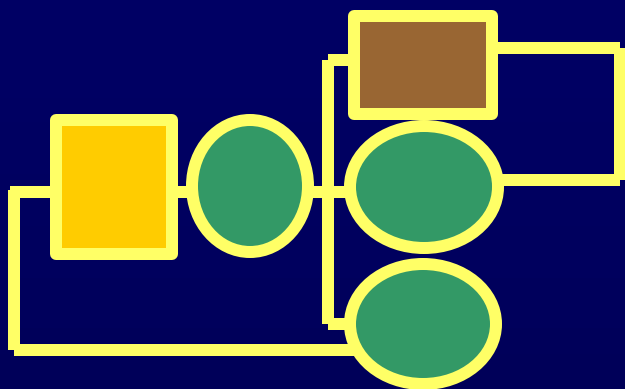
University of California Tomales Bay Water Quality Project (UCTBWQP) Goal

To strengthen the viability of agriculture and aquaculture in Marin coastal areas by assisting landowners and the community to better understand the relationship between coliform levels in Tomales Bay and land use practices.



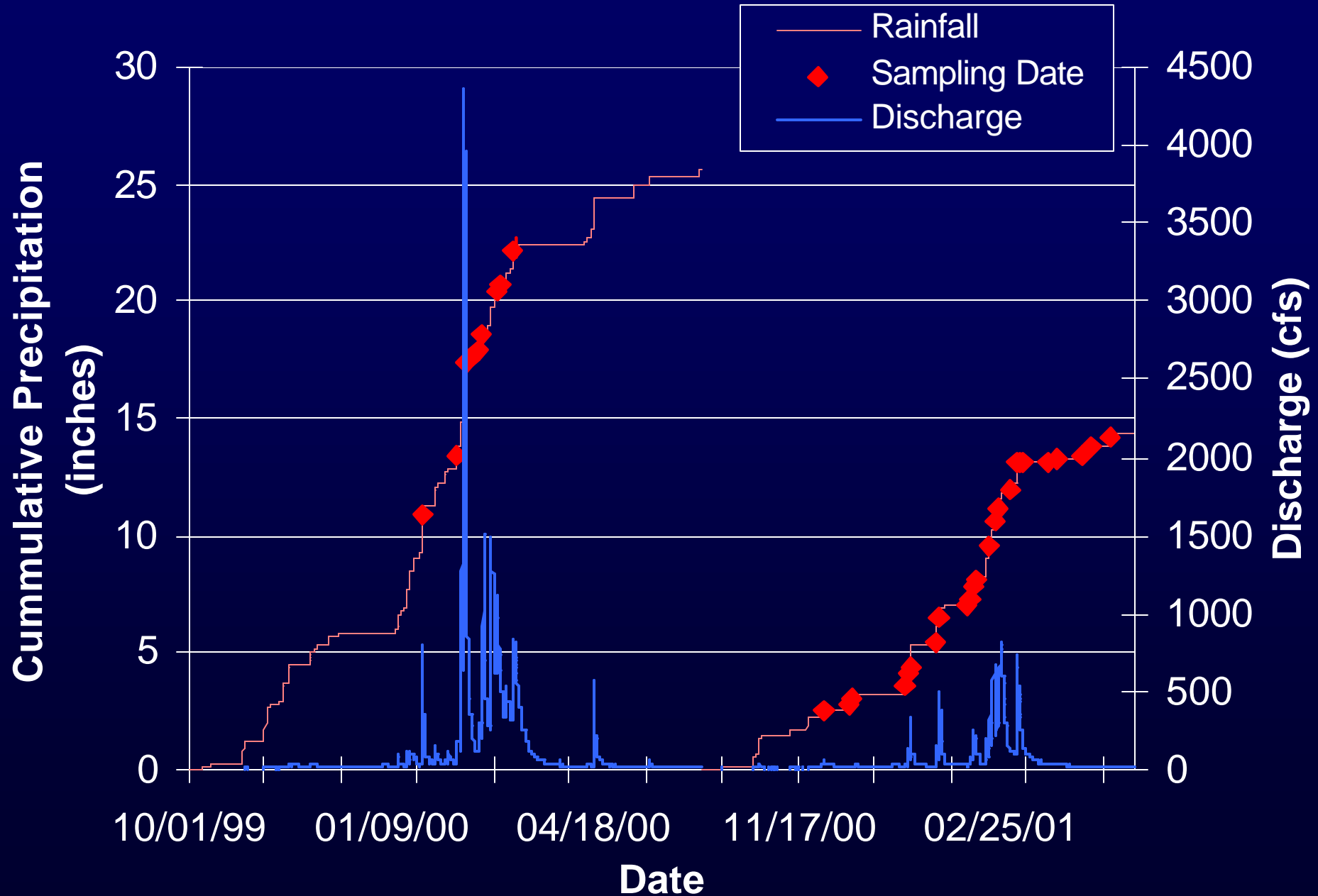




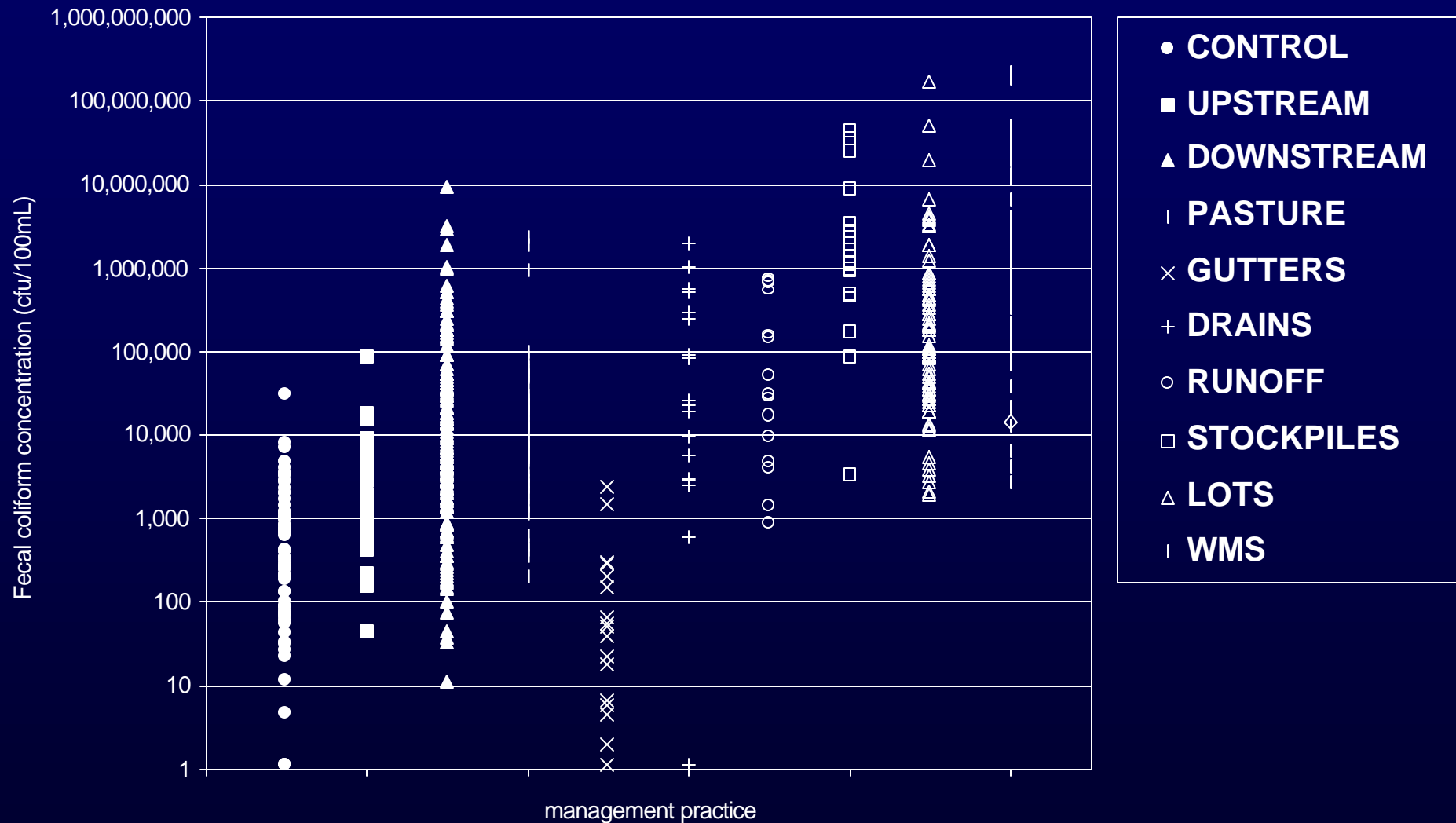




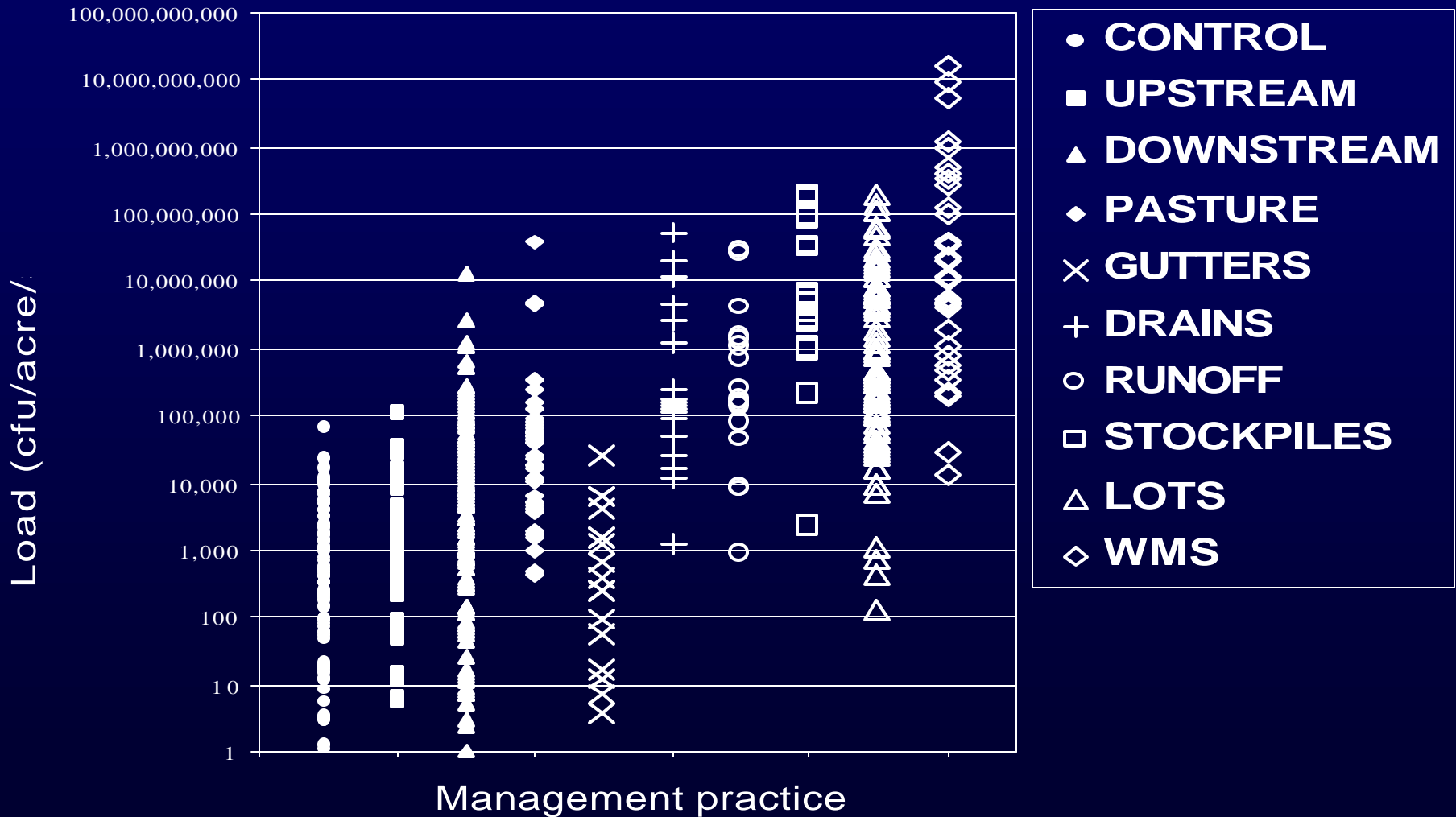
Lagunitas Creek Discharge for 1999-2001.



Fecal coliform concentration by management practice

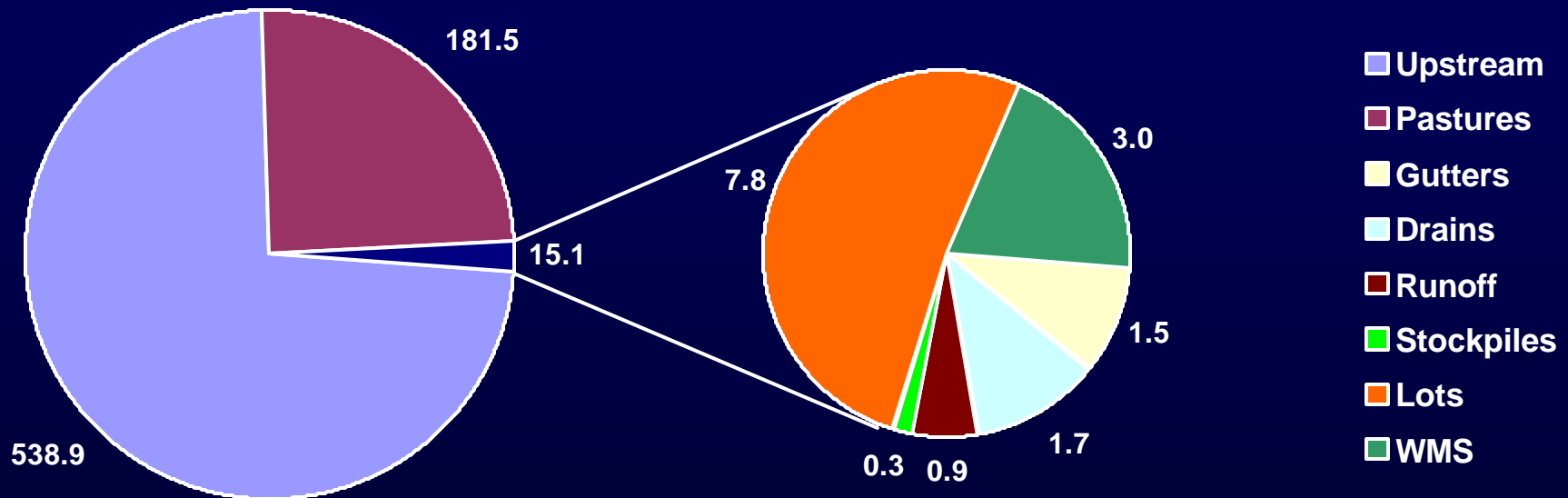


Fecal coliform instantaneous load by management practice



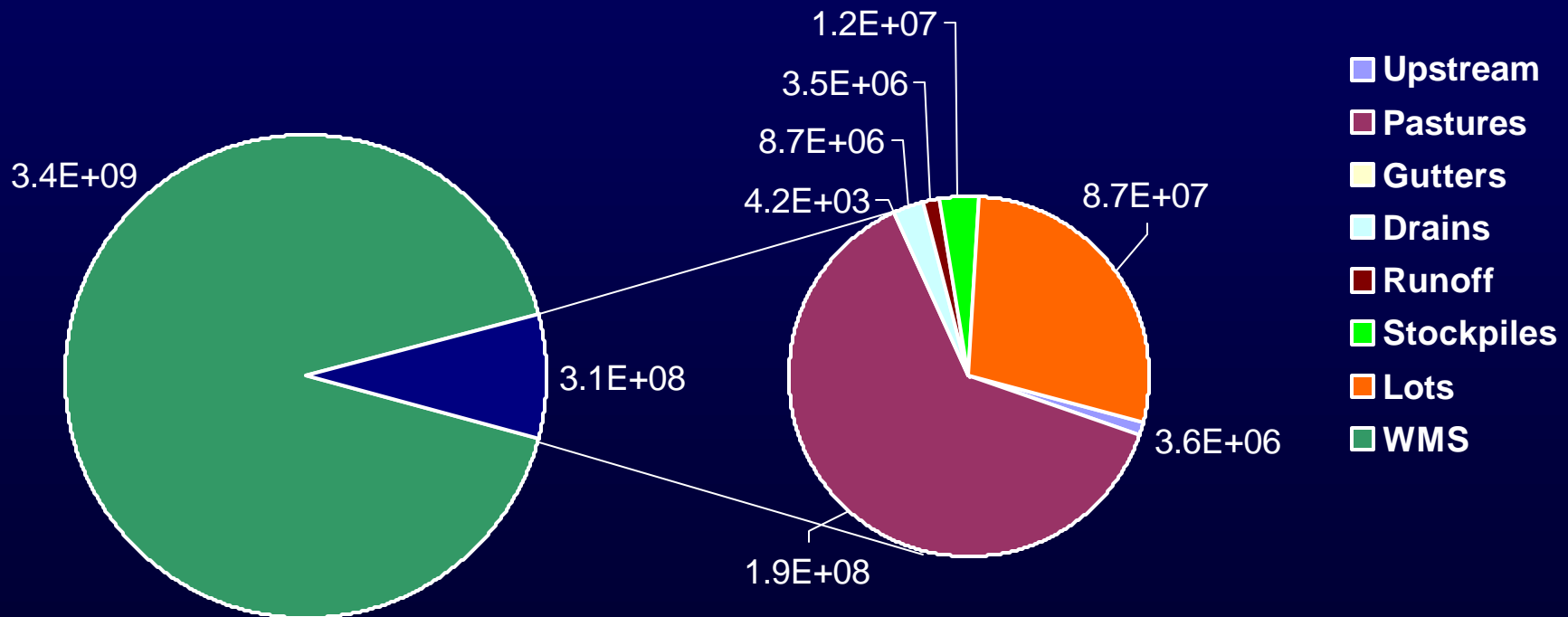
Representative Dairy

Representative dairy drainage area (acres) by loading unit.



(No two dairies are alike.)

Representative dairy fecal coliform total instantaneous loads (cfu/second) per unit.

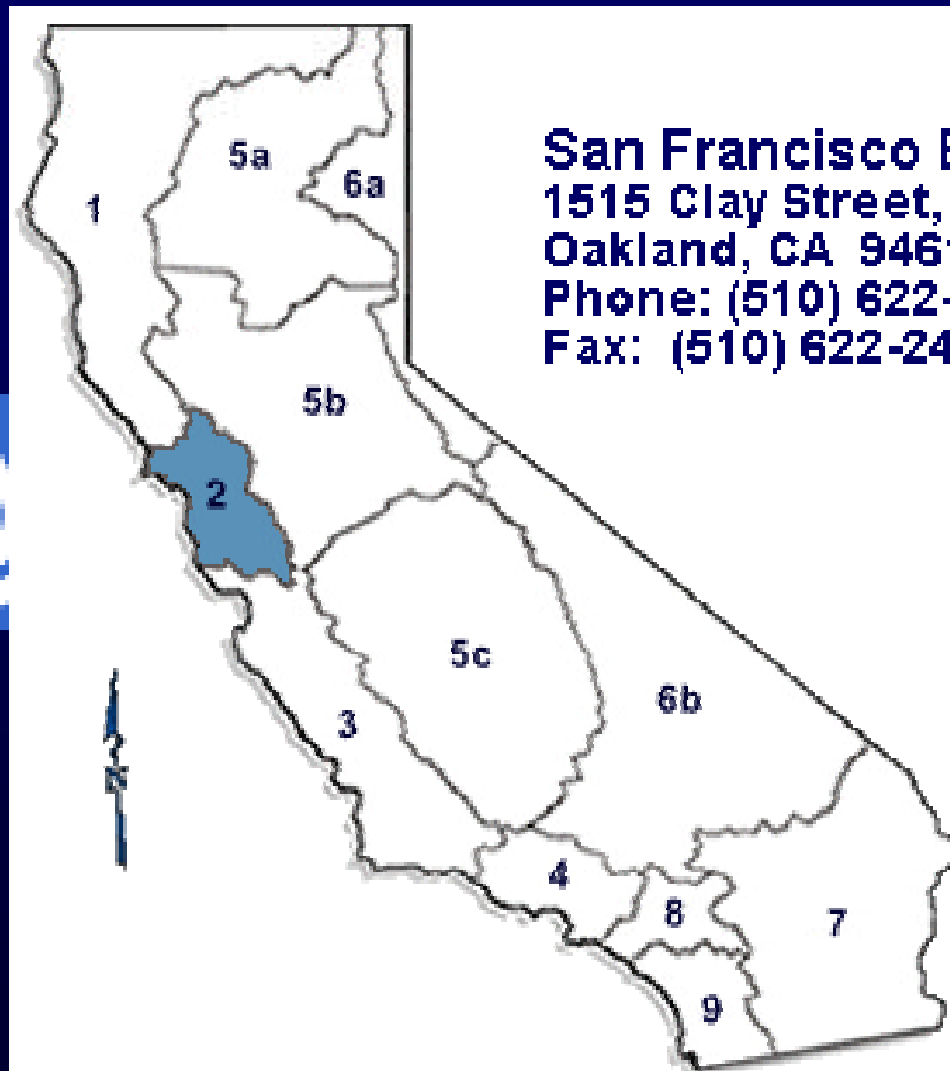






Application to Pastures





San Francisco Bay Region (2)

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Oakland, CA 94612

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SOURCE	FUNDS	PROJECTS
Proposition 13	357,000 <i>(750,000)</i>	12-24
NRCS - EQIP	400,000	-
Landowner	<u>287,000</u>	-
TOTAL:	\$1,044,000	45







Acknowledgements

Marin Community Foundation

Marin County Wildlife and Fisheries Advisory Committee

UC DANR Dairy Quality Assurance Work Group

UC DANR Analytical Laboratory

UC SAREP

UC Sea Grant

California State Proposition 13